



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

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February 4, 2015

John Weiss
Solutia Inc.
730 Worcester Street
Springfield, MA 01151

RE: Springfield
Transmittal No.: X261407
Application No.: WE-14-013
Class: *OP*
FMF No.: 298974
AIR QUALITY PLAN APPROVAL

Dear Mr. Weiss:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Air and Waste, has reviewed your Non-Major Comprehensive Plan Application ("Application") listed above. This Application concerns the proposed conversion by retrofit of the existing 249 million Btu per hour coal-fired boiler to natural gas at your facility located at 730 Worcester Street in Springfield, Massachusetts ("Facility"). The Application bears the seal and signature of William Stengle, Massachusetts Registered Professional Engineer Number 38432.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control" regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-N, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

The requirements contained in Plan Approval WE-14-013 do not become effective until the firing of coal in Boiler #11 has been permanently discontinued.

1. DESCRIPTION OF FACILITY AND APPLICATION

Solutia Inc. (a subsidiary of Eastman Chemical Company) manufactures chemicals and plastic interlayers for automobile windshields, solar panels and building windows. In order to support the manufacturing process, the facility operates three boilers that supply steam for electric generation and process. The three boilers are identified in the facility's Title V Operating Permit 1-O-09-015 as Powerhouse Emission Units (EU) 150 S01, 150 S02 and 150 S03. These boilers are commonly known as Boiler #9, #10 and #11. Currently, Boiler #9 and #10 (EU 150 S01 and EU 150 S02) are natural gas-fired and Boiler #11 (EU 150 S03) is coal-fired. All three boilers exhaust to a common stack. The facility is currently operating in accordance with Minor Modification of Title V Operating Permit#1-O-09-015, issued October 23, 2009.

Non-Major Comprehensive Plan Application (NMCPA) #WE-14-013 has been submitted to convert Boiler #11 from being coal-fired to natural gas-fired. Boiler #11 is a Foster Wheeler Type S Spreader Stoker boiler (serial #6458), constructed in late 1982, with a maximum heat input of 249 million Btu per hour and controlled by a Carborundum Environmental Systems baghouse. Boiler #11 provides steam to the facility's steam turbine-generator set for cogeneration purposes. The boiler operates almost continuously except for one planned shutdown for maintenance each calendar year. The facility intends to continue with this operating schedule after the fuel conversion has been completed. To convert the fuel source from coal to natural gas, the boiler will be installed with two new Coen Variflame 720 (or equivalent) low NOx burners to combust only natural gas. Each burner will have a maximum heat input rate of 124.9 million Btu per hour. No backup or alternate fuels are proposed. There will be no physical modifications to the existing stack. The facility intends to have the fuel conversion completed by January 31, 2016.

Regulatory Applicability

The fuel conversion of Boiler #11 is not subject to the best available control technology (BACT) requirements of 310 CMR 7.02(8)(a)2. pursuant to the requirements for fuel switching contained in 310 CMR 7.02(8)(b). 310 CMR 7.02(8)(b) Fuel Switching states that the conversion of fuel utilization facilities equal to or greater than 100,000,000 Btu per hour from oil or solid fuel to natural gas or dual-fuel oil/natural gas, are not required to provide an assessment of BACT in the application for plan approval (limited plan approval or comprehensive plan approval). However, the following air contaminant emission limits in Table 1 will apply to the natural gas-fired boiler according to the applicable regulation.

TABLE 1.

Air Contaminant	Emission Limit	Applicable Regulation
Nitrogen Oxides	≤ 0.20 pounds per million Btu of heat input, based on a one hour average	310 CMR 7.19(4)(a)5
Carbon Monoxide	≤ 200 parts per million volume dry corrected to 3% oxygen, based on a one hour average	310 CMR 7.19(4)(f)
Volatile Organic Compounds	≤ 0.00539 pounds per million Btu of heat input	310 CMR 7.00: Appendix A
Particulate Matter, including PM10 and PM2.5	≤ 0.00745 pounds per million Btu of heat input	40 CFR 52.21
Sulfur Dioxide	≤ 0.0006 pounds per million Btu of heat input	40 CFR 52.21
Smoke	< No. 1 of Chart, except No. 1 to < No. 2 of Chart for ≤ 6 minutes during any one hour	310 CMR 7.06(1)(a)
Opacity	≤ 20%, except 20 to ≤ 40% for ≤ 2 minutes during any one hour	310 CMR 7.06(1)(b)

The particulate matter (PM) (including PM with an aerodynamic diameter of equal to or less than 10 micron, known as PM10 and PM with an aerodynamic diameter of equal to or less than 2.5 microns, known as PM2.5) and sulfur dioxide (SO₂) emission rates are more stringent than the applicable requirements specified in 310 CMR 7.02(8)(h) Table 6 and 310 CMR 7.22(1) since they were used in the application for determining the applicability of the Prevention of Significant Deterioration (PSD) regulations of 40 CFR § 52.21. An emission limit for carbon dioxide equivalent was not included pursuant to 40 CFR § 52.21 based on the USEPA Memorandum: Next Steps and Preliminary Views on the Application of Clean Air Act Permitting Programs to Greenhouse Gases Following the Supreme Court's Decision in *Utility Air Regulatory Group v. Environmental Protection Agency* dated July 24, 2014.

Solutia Inc. is an existing major stationary source of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) pursuant to the Emission Offsets and Nonattainment Review regulations of 310 CMR 7.00: Appendix A because the facility has the potential to emit more than 50 tons per year of NO_x and more than 50 tons per year of VOCs. Therefore, the facility must calculate the net emissions increase for VOCs and NO_x from the physical change/ change in the method of operation of Boiler #11 to determine the applicability of 310 CMR 7.00: Appendix A. The facility has demonstrated that the fuel conversion of Boiler #11 will not have a significant net emission increase for NO_x or VOCs and is therefore not a major modification as defined in 310 CMR 7.00: Appendix A. As a result, the project will not be subject to 310 CMR 7.00: Appendix A.

Solutia Inc. is an existing major stationary source pursuant to the PSD regulations of 40 CFR § 52.21 because the facility has the potential to emit more than 100 tons per year of a new source review (NSR) regulated pollutant in an area designated as attainment under sections 107(d)(1)(A)(ii) or (iii) of the Act. Therefore, the facility must determine if the project will be a major modification which results in a (1) significant emission increase of a regulated NSR pollutant and a (2) significant net emissions increase of that pollutant from the major stationary source. The facility has demonstrated that the fuel conversion of Boiler #11 will not have a

significant emissions increase of a regulated NSR pollutant and is therefore not a major modification as defined in 40 CFR 52.21. As a result, the project will not be subject to 40 CFR 52.21.

Solutia Inc. is a major source of hazardous air pollutants. Therefore, the natural gas-fired boiler will be subject to and shall comply with the National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD. According to Subpart DDDDD, Boiler #11 must comply with the applicable requirements of the subpart no later than January 31, 2016. The applicable requirements have been included in this plan approval.

Ambient Air Quality Impact Analysis

This section documents the results from an air quality computer dispersion modeling analysis performed using USEPA approved AERMOD model (13350) for the proposed natural gas-fired boiler to demonstrate that the predicted air quality impacts will comply with the 1-hour nitrogen dioxide (NO₂) National Ambient Air Quality Standard (NAAQS) after the boiler has been converted to natural gas. The air quality analysis was reviewed by MassDEP.

Seven NO₂ emission cases were modeled. The NO₂ emissions from the natural gas-fired boiler (#11) were modeled at a load of 100%, 75% and 50% while operating alone and while operating simultaneously with Boilers #9 and #10 with a stack height of 196 feet (59.74 meters) above grade and a stack diameter of 7 feet (2.13 meters). The final NO₂ modeling case (Case 7), which produced the worst-case impact, included all three Solutia boilers operating at 100% load as well as three background sources that are located within 10 kilometers of Solutia, Inc. These sources are: MassPower - Indian Orchard, Essential Power Massachusetts, LLC – West Springfield station and Stony Brook Energy Center – MMWEC located in Ludlow, MA. MassPower is located immediately adjacent to Solutia, and so close that they are generally considered to be collocated, and hence, are typically modeled together for impact assessments. The selection of the remaining two sources was based on current MassDEP modeling guidance whereby sources within 10 kilometers of the primary facility being modeled are included in the cumulative analysis if their emissions of the pollutant(s) being modeled equal or exceed the significant emission rate (SER) in the guidance. In this case, the only pollutant is NO₂, which has a SER of 40 tons per year.

MassPower has two natural gas and #2 fuel oil-fired turbines each with a maximum heat input rate of 1250 million Btu per hour which were modeled at 100% load exhausting through a common stack with a stack height of 64.92 meters. Since MassPower has documented that #2 fuel oil-firing has been very infrequent in recent years, the modeling was performed with natural gas. Essential Power Massachusetts, LLC – West Springfield station has two boilers and three turbines which were modeled using #2 fuel oil at 100% load. Stony Brook Energy Center – MMWEC has five turbines and two auxiliary boilers which were modeled using #2 fuel oil at 100% load.

Type of Model

The air quality modeling analysis was performed with the latest version (13350) of the USEPA AERMOD with USEPA's recommended regulatory default options and primarily urban dispersion coefficients.

The modeling was run using a meteorological data-set that applied a non-guideline option in AERMET for adjusting the friction velocity parameter (u^*). Additional modeling was performed using the default meteorological data options for AERMOD version 13350 to compare the controlling impacts from both approaches.

The Tier 2 (80% NO_x to NO₂ conversion) regulatory default option in AERMOD was used for predicting 1-hour NO₂ air quality impacts.

Meteorological Data

The air quality modeling analysis used five years (2008-2012) of hourly surface observations and one-minute wind speed and direction data from Westfield Barnes Regional Airport, MA along with 5 years of concurrent upper air meteorological data from Albany International Airport, NY. This data was considered to be the most representative for the facility's dispersion environment. Meteorological data for AERMOD runs were prepared with USEPA's AERMET (version 13350) meteorological processing module using land use surface characteristics (Albedo, owen Ratio and surface roughness) prepared with EPA's AERSURFACE processor (version 13016) for twelve 360 degree wind sectors around the airport.

Selected Air Quality Monitors

Background air quality data for NO₂ was developed using the monitor located at Westover Air Force Base, Chicopee, MA for the calendar years 2010-2012. The Westover NO₂ monitoring data is the most recent data and the closest monitor to the site. EPA's March 2011 clarification memo regarding 1-hour NO₂ NAAQS was used to determine the background values using data from the 3-year period of 2010-2012.

Receptor Network

A roughly 40 kilometer east-west by 45 kilometer north-south uniform Cartesian grid with receptors set every 500 meters was developed for this modeling analysis. The northern edge was extended out by an additional 5 kilometers to include higher terrain areas where elevated modeled impacts were anticipated. The uniform grid network also contained four smaller sub-grid areas where 50- or 100-meter receptor spacing was used. Three sub-grids were set up in additional areas of expected higher modeled impacts due to terrain. These three sub-grids used 100-meter receptor spacing. The fourth sub-grid was set up around the Solutia plant and consisted of 50-meter spacing. A total of 18,214 discrete receptors, were employed for the modeling analysis.

Air Dispersion Modeling Results

The results from Case 7 (modeled impacts plus background) using the default meteorological data do not show compliance with the 1-hour NO₂ NAAQS of 188 ug/m³. A culpability analysis indicates that Stony Brook is the largest contributor. The overall 1-hour NO₂ impact is 339.7 ug/m³ with Solutia contributing 3.1 ug/m³ and Stony Brook contributing 286.6 ug/m³. In contrast, the Case 7 results using the non-default meteorological data (u*adjustment used in AERMET) do show compliance with the NAAQS largely due to the Stony Brook impact being reduced (the overall impact is 144.5 ug/m³ with Solutia contributing 1.9 ug/m³ and Stony Brook contributing 86.3 ug/m³).

MassDEP has determined to not consider the results from the non-default meteorological data modeling approach due to the improbability that the data could obtain USEPA approval. The suitability requirements are contained in 40 CFR Part 51, Appendix W, Section 3.2.2.e.iv. which state that “an alternative refined model may be used provided that: Appropriate performance evaluations of the model have shown that the model is not biased toward underestimates...” This is a difficult standard to achieve and may not be possible for this modeling analysis.

Therefore, MassDEP has determined that the modeling results, using default meteorological data, can be used to approve the modeling, and more importantly, show that Solutia’s NO_x emissions with Boiler #11 firing on gas are protective of the 1-hour NO₂ NAAQS for the following reasons:

- Solutia is an existing plant and the boiler fuel conversion project is beneficial to the environment by lowering NO_x emissions.
- Solutia’s NO_x emissions with gas-firing will be 33% lower than its current coal-firing NO_x emissions.
- The overall highest modeled result from Solutia alone using the default meteorological data is 56.7 ug/m³ (high 1st-high). Although this impact exceeds the 1-hour NO₂ significant impact level (SIL) of 7.5 ug/m³, the SIL does not apply to this type of compliance analysis for an existing source that is lowering its emissions.
- The highest modeled result in the form of the standard from Solutia alone using the default meteorological data is 46.3 ug/m³ (high 8th-high)
- The highest modeled result in the form of the NAAQS from Solutia (46.3 ug/m³) plus background NO₂ (75.3 ug/m³) equals 121.6 ug/m³, which is well under the NAAQS of 188 ug/m³.
- As clearly demonstrated through this conservative modeling analysis, Solutia’s future NO_x emissions after the Boiler #11 fuel conversion will not cause nor contribute to modeled maximum cumulative impacts.

Conclusion

The NO_x emissions from the proposed fuel conversion from coal to natural gas for Boiler #11 will not cause or significantly contribute to violations of the 1-hour NO₂ NAAQS.

2. EMISSION UNIT IDENTIFICATION

Each Emission Unit ("EU") identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1			
EU	Description	Design Capacity	Pollution Control Device
150 S03	Natural Gas-Fired Foster Wheeler Type S Spreader Stoker boiler (serial #6458), equipped with two Coen Variflame 720 (or equivalent) low NOx burners (Boiler #11)	124.9 million Btu per hour per burner	None

Table 1 Key:

EU = Emission Unit Number

BTU = British Thermal Unit

NOx – Nitrogen Oxides

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2:

Table 2			
EU	Operational / Production Limit	Air Contaminant	Emission Limit
150 S03	1. EU 150 S03 shall only be fired using natural gas.	NOx	≤ 0.20 pounds per million Btu of heat input, based on a one hour average
		CO	≤ 200 parts per million volume dry corrected to 3% oxygen, based on a one hour average
		VOCs	≤ 0.00539 pounds per million Btu of heat input ⁽²⁾
		PM, including PM10 and PM2.5	≤ 0.00745 pounds per million Btu of heat input ⁽²⁾
		SO ₂	≤ 0.0006 pounds per million Btu of heat input ⁽²⁾
		Smoke	< No. 1 of Chart ⁽¹⁾ , except No. 1 to < No. 2 of Chart for ≤ 6 minutes during any one hour
		Opacity	≤ 20%, except 20 to ≤ 40% for ≤ 2 minutes during any one hour

Table 2 Key:

EU = Emission Unit Number
NO_x = Nitrogen Oxides
CO = Carbon Monoxide
VOC = Volatile Organic Compounds
SO₂ = Sulfur Dioxide
BTU = British Thermal Unit
≤ = less than or equal to

PM = Total Particulate Matter
PM₁₀ = Particulate Matter less than or equal to 10 microns in diameter
PM_{2.5} = Particulate Matter less than or equal to 2.5 microns in diameter
% = percent

- (1) Chart means the Ringelmann Scale for grading the density of smoke, as published by the United States Bureau of Mines and as referred to in the Bureau of Mines Information Circular No. 8333, or any smoke inspection guide approved by MassDEP.
- (2) Compliance with the VOC, PM, including PM₁₀ and PM_{2.5}, and SO₂ emission limits shall be based on the results of an applicable USEPA Reference Test Method.

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, recordkeeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3a	
EU	Monitoring and Testing Requirements
150 S03	1. In accordance with 310 CMR 7.19(13)(a)2., compliance with the NO _x and CO emission standards shall be demonstrated by performing an annual stack test as specified in 310 CMR 7.19(13)(c).
	2. In accordance with 310 CM R 7.19(13)(c)3. and 4., the Permittee shall conduct annual compliance stack testing for NO _x and CO in accordance with procedures set forth in Appendix A of 40 CFR Part 60 or another method approved by the Department and EPA. The initial compliance stack test shall be performed within 90 days of continuous operation of EU #150 S03 while firing natural gas only.
	3. In accordance with 310 CMR 7.04(4)(a), the Permittee shall inspect and maintain each fuel burning emission unit in accordance with the manufacturer's recommendations and test each unit in accordance with the manufacturer's recommendations for efficient operation at least once each calendar year.
	4. In accordance with 40 CFR 63.7510(e), the Permittee shall complete an initial tune-up by following the procedures described in 40 CFR 63.7540(a)(10)(i) through (vi) no later than the compliance date specified in 40 CFR 63.7495, except as specified in 40 CRR 63.7510(j).

Table 3b

EU	Monitoring and Testing Requirements
150 S03	<p>5. In accordance with 40 CFR 63.7540(a)(10), the Permittee shall conduct an annual tune-up of EU 150 S03 to demonstrate continuous compliance as listed below and as specified in 40 CFR 63.7540 (a)(10)(i) through (v).</p> <ul style="list-style-type: none"> a. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment; b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection; d. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject; and e. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. <p>6. In accordance with 40 CFR 63.7540(a)(13), if EU 150 S03 is not operating on the required date for the annual tune-up, the tune-up shall be conducted within 30 calendar days of startup.</p> <p>7. In accordance with 40 CFR 63.7510(e), the Permittee shall complete the one-time energy assessment specified in Table 3 of 40 CFR Part 63 Subpart DDDDD, no later than the compliance date specified in 40 CFR 63.7495, except as specified in 40 CFR 63.7510(j).</p>

Table 3c

EU	Monitoring and Testing Requirements
150 S03	<p>8. In accordance with Table 3, requirement #4 a. through h. of 40 CFR Part 63, Subpart DDDDD, EU 150 S03 shall have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in 40 CFR 63.7575:</p> <ul style="list-style-type: none"> a. A visual inspection of the boiler or process heater system. b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints. c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator. d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage. e. A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified. f. A list of cost-effective energy conservation measures that are within the facility's control. g. A list of the energy savings potential of the energy conservation measures identified. h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. <p>9. EU 150 S03 is subject to and shall comply with all applicable monitoring and testing requirements contained in the National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD.</p> <p>10. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration</p> <p>11. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13</p>

Table 3 Key:

EU = Emission Unit Number
NOx = Nitrogen Oxides
CO = Carbon Monoxide
USEPA = United States Environmental Protection Agency

Table 4a

EU	Recordkeeping Requirements
150 S03	<ol style="list-style-type: none"> <li data-bbox="239 517 1501 607">1. In accordance with 310 CMR 7.04(4)(a), the results of fuel utilization facility inspection, maintenance, and testing and the date upon which it was performed shall be recorded and posted conspicuously on or near the boiler. <li data-bbox="239 607 1501 719">2. In accordance with 310 CMR 7.19(13)(d)3., the Permittee shall measure and record on a daily basis: type fuel(s) burned each day, heat content of each fuel, the total heating value of the fuel consumed fore each day, and the allowable emission rate. <li data-bbox="239 719 1501 831">3. In accordance with 310 CMR 7.19(13)(d)8., the Permittee shall maintain all records required by 310 CMR 7.19(13)(d) for a period of five years in a permanently bound log book or any other form acceptable to the Department including computer retained and generated data. <li data-bbox="239 831 1501 1055">4. In accordance with 40 CFR 63.7540(a)(10)(vi)(A) and (B), the Permittee shall maintain on-site and submit, if requested by the Administrator, an annual report containing the following information: <ol style="list-style-type: none"> <li data-bbox="287 931 1501 999">a. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of EU 150 S03; and <li data-bbox="287 1021 1501 1055">b. A description of any corrective actions taken as a part of the tune-up. <li data-bbox="239 1055 1501 1301">5. In accordance with 40 CFR 63.7555(a)(1) and (2), the Permittee shall keep the following records: <ol style="list-style-type: none"> <li data-bbox="287 1122 1501 1211">a. A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). <li data-bbox="287 1234 1501 1301">b. Records of performance tests, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii). <li data-bbox="239 1301 1501 1379">6. In accordance with 40 CFR 63.7555(i), the Permittee shall maintain records of the calendar date, time, occurrence and duration of each startup and shutdown. <li data-bbox="239 1379 1501 1469">7. In accordance with 40 CFR 63.7555(j), the Permittee shall maintain records of the type(s) and amount(s) of fuels used during each startup and shutdown. <li data-bbox="239 1469 1501 1559">8. In accordance with 40 CFR 63.7560(a), the Permittee shall maintain records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). <li data-bbox="239 1559 1501 1693">9. In accordance with 40 CFR 63.7560(b) and as specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. <li data-bbox="239 1693 1501 1850">10. In accordance with 40 CFR 63.7560(c), the Permittee shall keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The Permittee can keep the records off site for the remaining 3 years. <li data-bbox="239 1850 1501 2013">11. EU 150 S03 is subject to and shall comply with all applicable recordkeeping requirements contained in the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD.

Table 4b	
EU	Recordkeeping Requirements
150 S03	12. The Permittee shall maintain adequate records on-site to demonstrate compliance status with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled for the previous month no later than the last business day of the following month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping .
	13. Pursuant to 40 CFR 52.21(r)(6)(i), before beginning actual construction of EU 150 S03, the Permittee shall document and maintain a record of the following information; <ul style="list-style-type: none"> a. A description of the project; b. Identification of the emission unit whose emissions of a regulated New Source Review pollutant could be affected by the project; and c. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under 40 CFR 52.21 (b)(41)(ii)(c) of this section and an explanation for why such amount was excluded, and any netting calculations, if applicable.
	14. Pursuant to 40 CFR 52.21(r)(6)(iii), the Permittee shall monitor the carbon monoxide emissions that could increase as a result of the project and that is emitted by any emissions unit identified in 40 CFR 52.21 (r)(6)(i)(b); and calculate and maintain a record of the carbon monoxide annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change.
	15. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	16. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) approved herein on-site.
	17. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s). The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	18. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	19. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	20. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	21. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:

EU = Emission Unit Number
SOMP = Standard Operating and Maintenance Procedure
NSR = New Source Review

CO = Carbon Monoxide
USEPA = United States Environmental Protection Agency

Table 5a	
EU	Reporting Requirements
150 S03	1. The Permittee shall notify MassDEP, in writing, the date on which EU 150 S03 commences operation at the facility after the fuel conversion to natural gas has been completed. This notice shall also contain the identity of the manufacturer, model # and maximum heat input rate for each of the low NOx burners. The notice shall be provided to MassDEP within (5) days of commencing operation.
	2. In accordance with 310 CMR 7.19(13)(d)9., the Permittee shall submit compliance records within ten days of written request by the Department or USEPA.
	3. In accordance with 310 CMR 7.19(13)(c)1. and 2., the Permittee shall submit a pretest protocol for the required emission test for review and Department approval at least 60 days prior to the anticipated date of test. The pretest protocol shall include a description of sampling point locations, sampling equipment, sampling and analytical procedures, and the operating conditions for the required testing.
	4. The Permittee shall submit to MassDEP a notification of the anticipated test date a minimum of 30 days prior to conducting the stack emission test as required by Table 3a Monitoring and Testing Requirements, Condition #2 herein.
	5. In accordance with 310 CMR 7.19(13)(c)6., the Permittee shall submit the emission test report for the review and written MassDEP approval within 60 days of the completion of the compliance stack testing.
	6. The emission test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison, and determination of compliance, with the air contaminant emission limitations contained herein.
	7. In accordance with 40 CFR 63.7550(a), the Permittee shall submit each report in Table 9 of 40 CFR Part 63 Subpart DDDDD that applies to EU 150 S03.
	8. In accordance with 40 CFR 63.7550(b), the Permittee shall submit an annual compliance report according to the requirements in 40 CFR 63.7550(b)(1) through (4) and specified below. <ul style="list-style-type: none"> a. The first compliance report shall cover the period beginning on the compliance date that is specified for EU 150 S03 in 40 CFR 63.7495 and ending 1 year after the compliance date that is specified in 40 CFR 63.7495. b. The first annual compliance report shall be postmarked or submitted no later than January 31. c. Each subsequent annual compliance report must cover the applicable 1-year period from January 1 to December 31. d. Each subsequent compliance report shall be postmarked or submitted no later than January 31.
	9. In accordance with 40 CFR 63.7550(c)(5)(i) through (iv) and (xiv), the annual compliance shall contain the following information. <ul style="list-style-type: none"> a. Company and Facility name and address. b. Process unit information, emissions limitations, and operating parameter limitations. c. Date of report and beginning and ending dates of the reporting period. d. The total operating time during the reporting period. e. The date of the most recent annual tune-up for EU 150 S03. f. The date of the most recent burner inspection if it was not done annually and was delayed until the next scheduled or unscheduled unit shutdown.

Table 5b	
EU	Reporting Requirements
150 S03	10. In accordance with 40 CFR 63.7550(h)(3), the Permittee shall submit all reports required by Table 9 of 40 CFR Part 63 Subpart DDDDD electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due you must submit the report to the Administrator at the appropriate address listed in 40 CFR 63.13. At the discretion of the Administrator, you must also submit these reports, to the Administrator in the format specified by the Administrator.
	11. EU 150 S03 is subject to and shall comply with all applicable reporting requirements contained in the National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD.
	12. The Permittee shall submit to MassDEP after commencing operation, in a format acceptable to MassDEP, a semi-annual report postmarked by no later than January 30 th of each year (containing the records generated for the immediately preceding July through December six month period) and July 30 th of each year (containing the records generated for the immediately-preceding January through June six month period), which minimally contains for the prior 6 consecutive calendar month period the following information: <ul style="list-style-type: none"> a. the total amount (in units of million British thermal units) of natural gas fuel used in the boiler each month and in each 12 consecutive month period. b. the calculated nitrogen oxides, carbon monoxide, volatile organic compounds, sulfur dioxide and carbon dioxide equivalent emissions from the boiler during each month and in each 12 consecutive month period. Associated calculations and all supporting data may be required upon request by MassDEP.
	13. Pursuant to 40 CFR 52.21(r)(6)(v), the Permittee shall submit a report to MassDEP if the annual CO emissions, in tons per year, from EU 150 S03, exceed the baseline actual emissions (as documented and maintained pursuant to 40 CFR 52.21(r)(6)(i)(c)), by a significant amount (as defined in 40 CFR 52.21(b)(23) of this section) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to 40 CFR 52.21 (r)(6)(i)(c). Such report shall be submitted to MassDEP within 60 days after the end of such year. The report shall contain the following: <ul style="list-style-type: none"> a. The name, address and telephone number of the major stationary source; b. The annual emissions as calculated pursuant to 40 CFR 52.21 (r)(6)(iii); and c. Any other information that the Permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).
	14. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	15. The Permittee shall notify the Western Regional Office of MassDEP, BWP Compliance & Enforcement Chief by telephone: 413-755-2131, email: saadi.motamedi@state.ma.us , or fax : 413-784-1149, as soon as possible, but no later than three (3) business days after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Compliance & Enforcement Chief at MassDEP within ten (10) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	16. The Permittee shall report annually to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.

Table 5 Key:

EU = Emission Unit Number
USEPA = United States Environmental Protection Agency
CO = Carbon Monoxide
NSR = New Source Review

4. **SPECIAL TERMS AND CONDITIONS**

- A. The Permittee is subject to, and shall comply with, the Special Terms and Conditions as contained in Table 6 below:

Table 6	
EU	Special Terms and Conditions
150 S03	1. The requirements contained in Plan Approval WE-14-013 do not become effective until the firing of coal in EU 150 S03 has been permanently discontinued.
	2. EU 150 S03 shall consist of the equipment specified in Table 1 herein.
	3. In accordance with 40 CFR 63.7495(b), EU 150 S03 shall comply with the National Emission Standards for Hazardous Air Pollutants ("NESHAP") for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD no later than January 31, 2016.
	4. In accordance with 40 CFR 63.7500(a)(1), EU 150 S03 shall meet the work practice standard in Table 3 of Subpart DDDDD.
	5. In accordance with 40 CFR 63.7500(a)(3), at all times, the Permittee shall operate and maintain EU 150 S03 in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
	6. In accordance with 40 CFR 63.7540(a), the Permittee shall demonstrate continuous compliance with the work practice standards in Table 3 of 40 CFR Part 63 Subpart DDDDD.
	7. The Permittee may make the approved changes herein, upon the submittal of an amended Title V Operating Permit Renewal Application (BWP AQ 12) which incorporates these changes.

Table 6 Key:

EU = Emission Unit Number

- B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including, but not limited to, rain protection devices known as "shanty caps" and "egg beaters."
- C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (°F)
150 S03	196	7	≥15	≥285

Table 7 Key:

EU = Emission Unit Number
≥ = greater than or equal to

°F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.

- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Should you have any questions concerning this Plan Approval, please contact Cortney Danneker by telephone at 413-755-2234, or in writing at the letterhead address.

*This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.*

Marc Simpson
Air Quality Permit Chief
Bureau of Air and Waste

ecc: MassDEP/WERO – Peter Czapienski
MassDEP/Boston - Yi Tian

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